FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION
(please fill in the highlighted areas)

I. APPLICANT INFORMATION

A. Applicant Name: Jim Olsen, Montana Fish Wildlife and Parks

B. Mailing Address: 313 Galaxy Dr

C. City: Butte State: MT Zip: 59701

Telephone: 533-8451

D. Contact Person: Same as above

Address if different from Applicant:

City: State: Zip:

Telephone:

E. Landowner and/or Lessee Name (if other than Applicant): State of Montana, FWP

Mailing Address:

City: State: Zip:

Telephone:

II. PROJECT INFORMATION*

A. Project Name: Sixmile Creek Fish Barrier

River, stream, or lake: Sixmile Creek

Location: Township 3N Range 12W Section 24

County: Deerlodge

B. Purpose of Project:

Use blasting to modify an existing bedrock drop and create a fish migration barrier in Sixmile Creek. Once barrier is in place westslope cutthroat trout would be restored upstream by removing non-native brook trout.

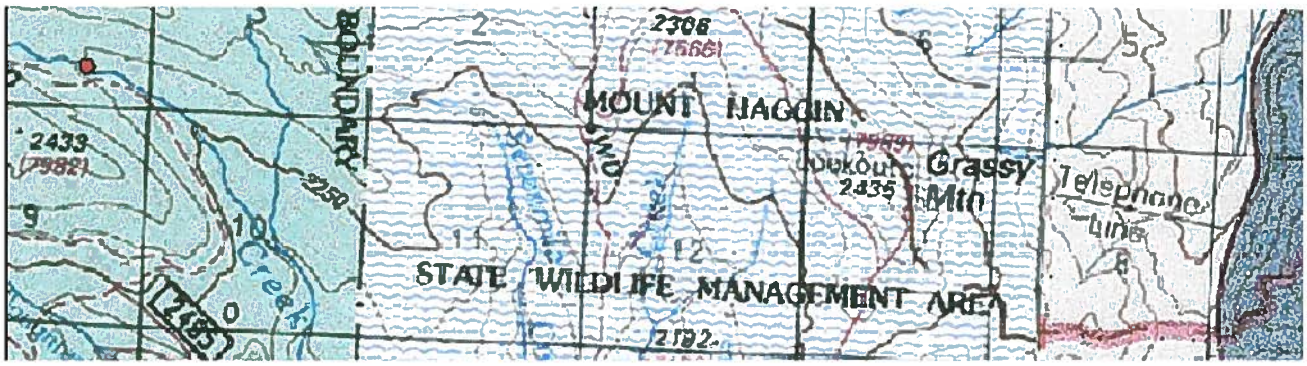
C. Brief Project Description:

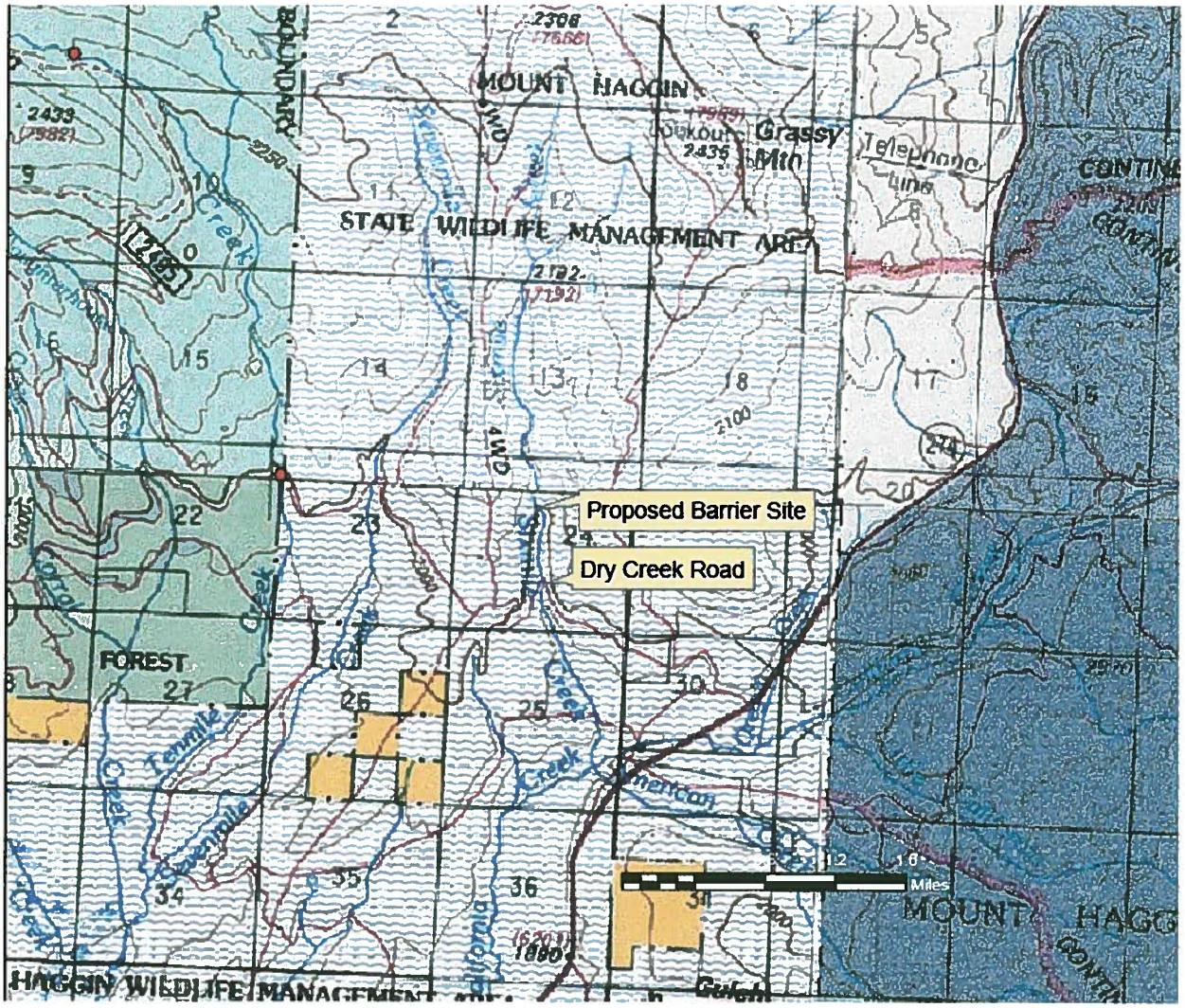
Sixmile Creek is a tributary to California Creek and Deep Creek northwest of the town of Wise River in the Big Hole drainage. The Slxmile Creek watershed is located entirely within the Mount Haggin Wildlife Management Area (Figure 1). Historically the stream has harbored a population of westslope cutthroat trout (Oswald 1981) that was never tested for hybridization. Surveys performed in 2010 and 2011 indicated that westslope are no longer present in the stream in the reach formerly documented as containing cutthroat. Only brook trout and rainbow trout were present.

Sixmile Creek upstream of the Dry Creek road flows through a short bedrock canyon (Figure 1). Within this canyon there are several small waterfalls and cascades. The most downstream waterfall has the potential to be modified into a fish barrier (Figure 2). The current configuration of the falls (Figure 3) consists of drop of approximately 3 ft into a small but deep pool. The depth of this pool likely allows fish to leap the small falls and gain access to the stream upstream. Immediately downstream of this pool the stream makes a 90 degree turn to the right and descends a small bedrock cascade (Figure 4). The proposed modification to these falls to create a fish barrier would consist of blasting material from the bedrock cascade downstream of the falls and increasing the existing height of the falls from 3 ft to approximately 6-8 ft. The newly constructed waterfall will act as a fish migration barrier preventing non-native fish from accessing Sixmile Creek upstream. The drilling and blasting would be performed by a licensed Beaverhead-Deerlodge National Forest blaster. Matching funds have been obtained from George Grant Chapter of Trout Unlimited and the Big Hole River Foundation ($1,000 total) and I am requesting $1,200 from Future Fisheries to cover the remaining costs of the project.

There is approximately 3 miles of habitat upstream of the falls that currently contains brook trout. The habitat upstream of the falls if very high quality. The stream gradient is low (Rosgen C and E channel type) and there are abundant, high quality pools. The streambanks are well vegetated with willows and sedges. There is no evidence of cattle impacts although the stream is partially within an existing grazing allotment. The Mount Haggin grazing plan calls for low densities of livestock for only limited periods of time to maintain habitat for wildlife (see attached grazing plan). The brook trout density upstream of the falls is over 2,500 fish per mile owing to the high quality of the habitat. In an extensive survey of the drainage, only one cutthroat trout was captured in 2011 among hundreds of brook trout and therefore there does not appear to be a viable population of cutthroat trout remaining in Sixmile Creek. Once a fish barrier is created, brook trout would be removed from the stream using rotenone. Prior to fish removal, efforts would be made to salvage any remaining cutthroat trout. Any salvaged fish would be genetically tested for hybridization and if the salvaged trout were non-hybridized, they would be reintroduced into the stream. Additionally, because of the very low numbers of cutthroat in Sixmile Creek (likely less than 10) other cutthroat from within the Big Hole drainage would be used to repopulate the stream. Priority would be given to streams where population replication has been identified as the primary conservation tool because the ability to protect the fish in their natal habitat is limited. The funding requested from FFIP is for barrier construction only. Funding used to remove brook trout would come from other sources.

The goal of this project is to create fishless habitat that can be used to potentially preserve the few remaining cutthroat trout in Sixmile Creek and/or replicate a population of westslope cutthroat trout from the Big Hole drainage. There are no remaining populations of westslope cutthroat trout on the Mount Haggin Wildlife Management Area within the Big Hole drainage. The one remaining population in Moose Creek was confirmed extirpated in 2010 due to competition with brook trout. A secure cutthroat population in Sixmile Creek would aid future restoration efforts in the drainage because fish and/or eggs could be collected from Sixmile Creek and used to populate other nearby streams.





Sixmile Creek map showing Dry Creek Road which access the stream and the location of the proposed barrier site.

Revised August 5, 2009

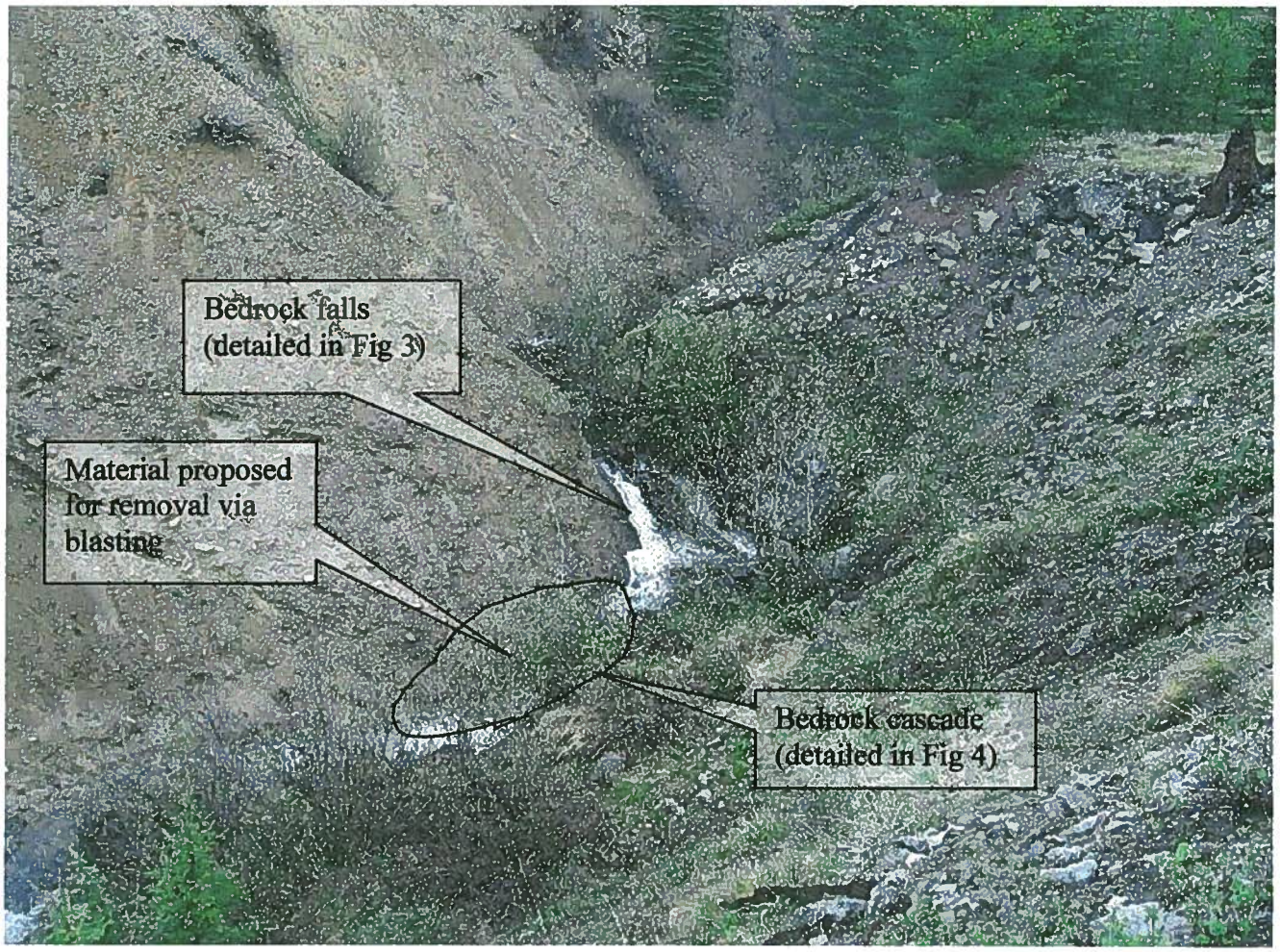


Figure 2. Bedrock falls and cascade on Sixmile Creek proposed for modification. A close up view of bedrock falls and cascade is given in figure 3 and 4.

Figure 3. Close up view of upper falls showing height of falls and depth of pool below. The total height of the shown net is 5 ft with approximately 2 ft of the net handle below water in the pool below and 3 ft of the net exposed. Water turns 90 degrees and flow to the left of the photo into the bedrock cascade shown in Figure 4.

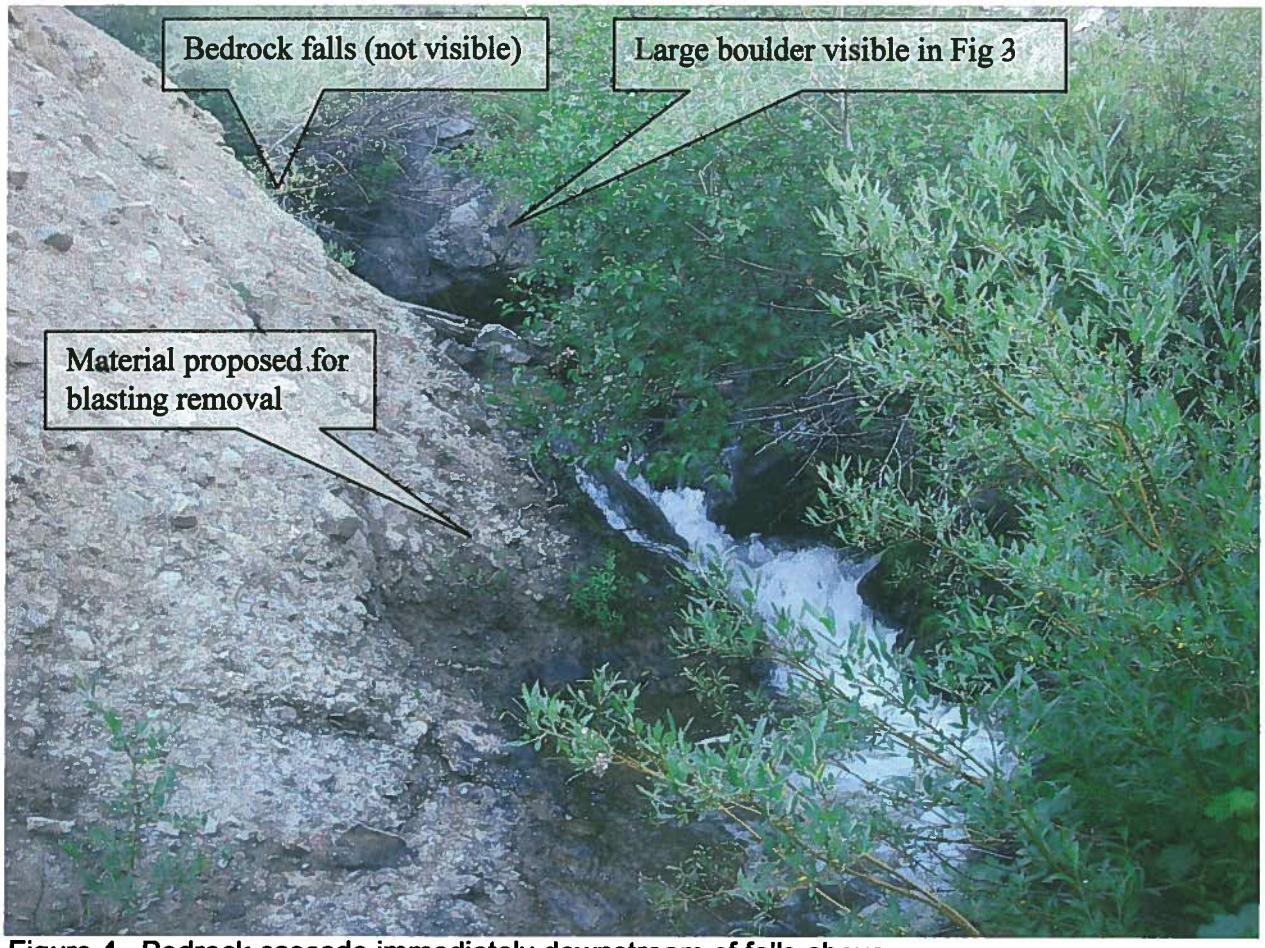


Figure 4. Bedrock cascade immediately downstream of falls above.

D. Length of stream or size of lake that will be treated: 3+ miles

E. Project Budget:

Grant Request (Dollars): $ 1,200

Contribution by Applicant (Dollars): $ _____ In-kind $ _____
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): $ $1,000 In-kind $ _____
(attach verification - See page 2 budget template)

Total Project Cost: $ 2,200

F. Attach itemized (line item) budget – see template

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

Westslope cutthroat trout

B. How will the project protect or enhance wild fish habitat?:

The project will restore westslope cutthroat trout to approximately 3 miles of secure stream and will replicate a population of cutthroat trout in the Big Hole that may not be able to be conserved in its native habitat.

C. Will the project improve fish populations and/or fishing? To what extent?:

The project will aid in improving the likelihood that westslope cutthroat trout in Sixmile Creek will persist into the future. Without a fish barrier and brook trout removal, it is very feasibly that few remaining westslope cutthroat trout in the Sixmile Creek would go extinct in the next 5 years. Opportunities to catch wild westslope cutthroat trout in the Big Hole Drainage, which are rare, will be increased. Sixmile Creek, however, is a small stream and does not likely receive much fishing pressure.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Public fishing opportunities for catching wild westslope cutthroat trout will increase but overall fishing opportunities will remain the same because wild brook trout will be replaced with westslope cutthroat trout.

E. If the project requires maintenance, what is your time commitment to this project?:

Maintenance will include periodically checking the barrier to insure its integrity and monitoring the fish population upstream.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

The habitat in Sixmile Creek is in very good condition throughout the entire watershed. The Mount Haggin WMA has seen some substantial mining and grazing related impacts within the past 150 years. However, the current land management as a wildlife management area have greatly improved riparian and stream conditions. Sixmile Creek was extensively logged 80-100 years ago for fuel logs that fed the Anaconda smelter. However, the stream was not extensively mined like other nearby areas. The stream upstream of the bedrock canyon shows no impacts of any past mining activity.

G. What public benefits will be realized from this project?:

The public benefit of the project is the long-term conservation of native westslope cutthroat trout. Sixmile Creek was once home to non-hybridized westslope cutthroat trout and now that population is all but extinct. Similar declines and population loss is common in the Big Hole drainage as well as across much of the native range of the species in the Missouri River basin where the fish is native. This project will expand the range of cutthroat in the drainage and will replicate a population in the Big Hole.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No.

J. Is this project associated with the reclamation of past mining activity?:

No.

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature: _____ Date: 5-30-12

Sponsor (if applicable): _____

***Highlighted boxes will automatically expand.**

Mail To: **Montana Fish, Wildlife & Parks**
Habitat Protection Bureau
PO Box 200701
Helena, MT 59620-0701

Incomplete or late applications will be returned to applicant.

Applications may be rejected if this form is modified.

*****Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.*****

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS
(Revised 5/30/2012)

WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FUTURE FISHERIES REQUEST	IN-KIND SERVICES	IN-KIND CASH	TOTAL
Personnel								
Survey				$ -				$ -
Design				$ -				$ -
Engineering				$ -				$ -
Permitting				$ -				$ -
Oversight				$ -				$ -
Labor	3	days	$350.00	$ 1,050.00	600.00		500.00	$ 1,100.00
				$ -				$ -
Travel								
Mileage				$ -				$ -
Per diem				$ -				$ -
Construction Materials								
Explosives and related equipment	1		$1,150.00	$ 1,150.00	600.00		500.00	$ 1,100.00
				$ -				$ -
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Equipment								
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				$ -				$ -
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Mobilization								
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
				$ -				$ -
			TOTALS	$ 2,200.00	$ 1,200.00	$ -	$ 1,000.00	$ 2,200.00

BUDGET TEMPLATE SHEET FOR FUTURE FISHERIES PROGRAM APPLICATIONS
(Revised 5/30/2012)

*Units = feet, hours, inches, lump sum, etc.

MATCHING CONTRIBUTIONS

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL
George Grant Chapter Trout Unlimited	$ -	$ 500.00	$ 500.00
Big Hole River Foundatation	$ -	$ 500.00	$ 500.00
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -
	$ -	$ -	$ -

Grazing Lease No. 3069.7 (B) 11 Mount Haggin South
Lease Period: 15 June 2011 – 5 October 2020

EXHIBIT A: GRAZING PLAN

1. Description of the lands leased: The Mt. Haggin WMA is about 58,000 acres in size. This lease allows livestock grazing on approximately 12,000 acres legally described in Appendix A and located on the associated map.

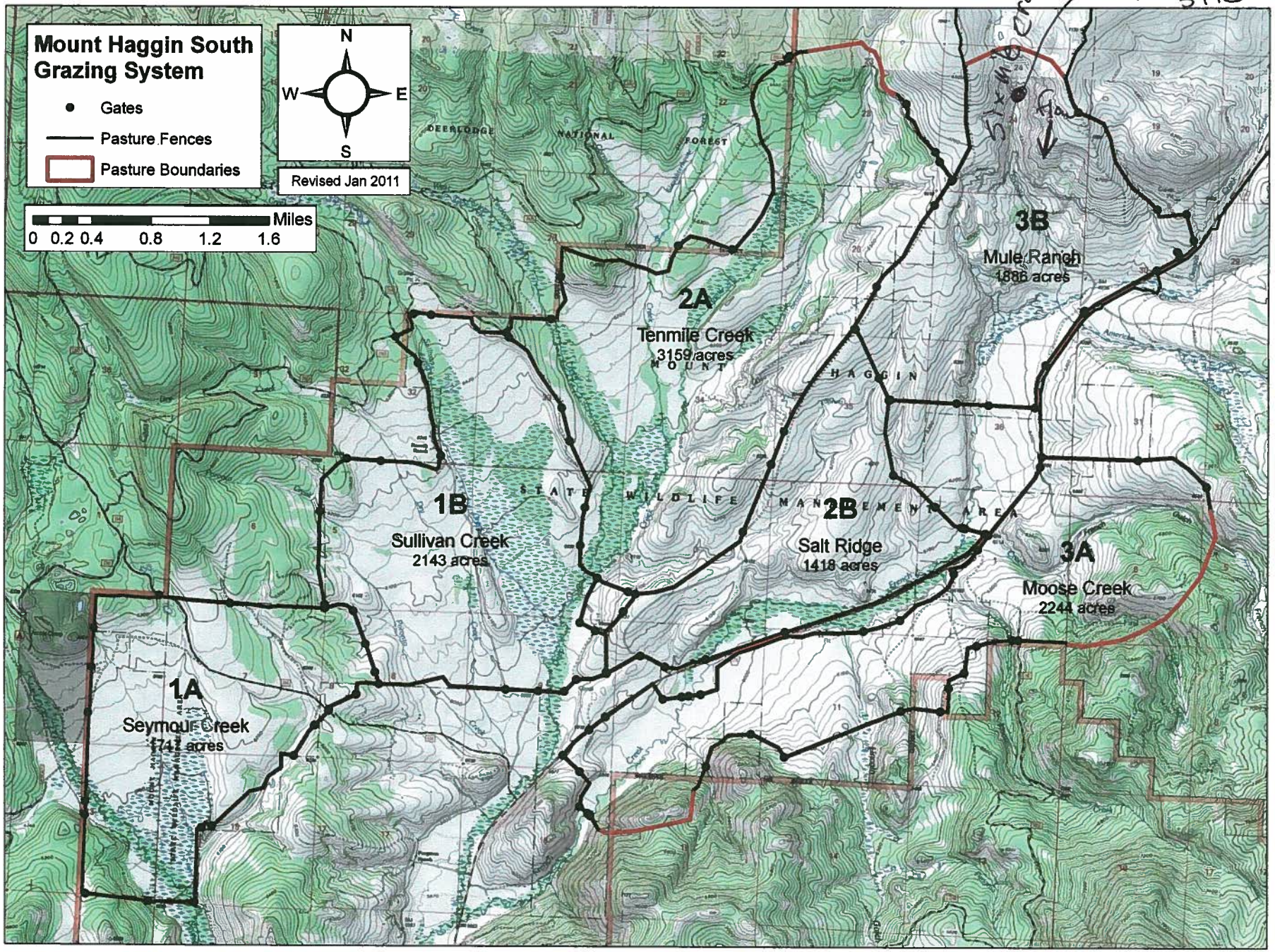
2. Grazing Schedule: All grazing under this lease will occur between June 15th and October 5th annually. It is mutually agreed by the lessor and lessee that the starting and ending date of the grazing season can vary by up to seven (7) days depending on the status of plant development. This change will be mutually determined by the lessor and the lessee prior to the start of the grazing system.

3. Salting: The lessor will be responsible for final approval of salt ground locations. Salt grounds will be placed on unproductive erosion resistant soil sites on flat ground or gentle slopes.

4. Grazing Rotation:

PASTURE	OWNERSHIP	YEAR		
		2011 2014 2017 2020	2012 2015 2018	2013 2016 2019
1A (Seymour) and 1B (Sullivan)	FWP: 70% USFS: 20% BLM: 10%	EARLY	LATE	REST
2A (Tenmile) and 2B (Salt Ridge)	FWP: 95% USFS: 0% BLM: 5%	LATE	REST	EARLY
3A (Moose Cr) and 3B (Mule Ranch)	FWP: 90% USFS: 0% BLM: 10%	REST	EARLY	LATE

Early – dates are approximately June 16 through August 15
Late – dates are approximately August 15 through October 5
Rest – allows for no livestock grazing


Proposed barrier site
Mount Haggin South Grazing System
Gates
Pasture Fences
Pasture Boundaries
N
W
E
S
Revised Jan 2011
Miles
0 0.2 0.4 0.8 1.2 1.6
DEERLODGE NATIONAL FOREST
MOUNT HAGGIN
STATE WILDLIFE MANAGEMENT AREA
1A
Seymour Creek
1747 acres
1B
Sullivan Creek
2143 acres
2A
Tenmile Creek
3159 acres
2B
Salt Ridge
1418 acres
3A
Moose Creek
2244 acres
3B
Mule Ranch
1886 acres